

January 11, 2005

IN THE CLAIMS:

1. (Currently Amended) A diagnostic instrument for analyzing liquid samples, comprising;

a sample carousel including at least one sample tube, the sample tube capable of storing liquid sample to be analyzed;

a diagnostic carousel including at least one diagnostic vessel capable of storing liquid sample to be analyzed and a pipette, the diagnostic carousel being offset from the sample carousel and lying in a different plane from the sample carousel, the diagnostic vessel including a transfer mechanism for transferring sample from the sample tube directly to the pipette; and

structure for bringing the diagnostic vessel into contact with the sample tube, upon contact, the transfer mechanism ~~of the pipette~~ being activated for transferring sample from the sample tube to the pipette or other diagnostic vessel.

2. (Original) The diagnostic instrument as set forth in Claim 1, wherein the diagnostic vessel defines a pipette.

3. (Original) The diagnostic instrument as set forth in Claim 1, wherein the diagnostic carousel lies in a plane that is elevated above the sample carousel plane.

4. (Original) The diagnostic instrument as set forth in Claim 3, wherein the structure for bringing the pipette into contact with the sample tube includes an elevator structure having an arm capable of connecting with the pipette and lowering the pipette into the sample tube.

5. (Original) The diagnostic instrument as set forth in Claim 4, wherein the

January 11, 2005

elevator structure comprises a rotary elevator.

6. (Original) The diagnostic instrument as set forth in Claim 1, wherein sample carousel has a capacity of between 30 and 120 sample tubes.

7. (Currently Amended) The diagnostic instrument as set forth in Claim 6, wherein there are a plurality of sample tubes and a matching number of pipettes or other diagnostic vessels.

8. (Original) The diagnostic instrument as set forth in Claim 7, wherein each of the sample tubes and pipettes have unique identifying indicia such that there is a matching pipette for every sample tube and the diagnostic instrument includes means for reading the unique identifying indicia and matching and aligning the appropriate sample tube and pipette together.

9. (Original) The diagnostic instrument as set forth in Claim 1, wherein the sample tube has an open proximal end and the proximal end includes a sample cup for storing the sample.

10.(Original) An instrument for analyzing liquid samples, comprising;
a sample carousel including structure for storing a plurality of sample tubes, the sample tubes capable of containing the liquid sample to be tested;
a diagnostic carousel including structure for storing a plurality of pipettes, the diagnostic carousel being offset from the sample carousel, each of the pipettes including a transfer mechanism for transferring the sample from the sample tube directly to the pipette; and
structure for bringing the pipette into contact with the sample tube, upon

January 11, 2005

contact the transfer mechanism of the pipette being activated for transferring sample from the sample tube to the pipette.

11. (Original) The instrument as set forth in Claim 10, wherein the diagnostic carousel lies in a plane that is elevated above the sample carousel plane.

12. (Original) The instrument as set forth in Claim 11, wherein the structure for bringing the pipette into contact with the sample tube includes an elevator structure having an arm capable of connecting with the pipette and lowering the pipette into the sample tube.

13. (Original) The instrument as set forth in Claim 10, wherein each of the carousels is rotatable.

14. (Original) The instrument as set forth in Claim 10, wherein each of the carousels is independently rotatable.

15. (Original) A instrument having overlapping carousel instrument, comprising:
a rotatable first carousel having structure suitable for holding at least one sample, the sample being contained in a holder defining a sample tube, the sample tube being removably held by the first carousel, the first carousel being in a first plane;
a rotatable second carousel, the second carousel being independently rotatable from the first carousel, the second carousel overlapping the first carousel, the second carousel including removable structure for holding at least a portion of the sample, the holding structure defining a pipette, the second carousel being in a second plane, different from the first plane, the first and second carousels overlapping and having zone of intersection; and

a transfer mechanism for transferring at least a portion of the sample

January 11, 2005

from the sample tube directly to the pipette at the zone of intersection, defining a transfer zone,

whereby, sample is capable of being transferred from the first carousel to the second carousel for diagnosis.

16. (Original) The instrument as set forth in Claim 15, wherein the sample tube and the pipette each have identifying indicia and wherein each of the carousel includes a reading structure for reading the indicia and wherein each carousel includes a mechanism for rotating it through the zone of intersection such that the sample tube and the pipette having matching indicia are aligned for transferring at least a portion of the sample from the sample tube to the pipette for diagnosis.

17. (Original) The instrument as set forth in Claim 16, wherein the reading structure for each of the carousels comprises a bar code reader.

18. (Original) The instrument as set forth in Claim 15, wherein the transfer mechanism comprises the pipette having an aspiration structure and being brought together with the sample tube to aspirate the sample from the sample tube to the pipette.

19. (Cancelled) A method of testing a sample in a diagnostic instrument including overlapping carousels, the steps comprising:

inserting a sample contained in a sample tube into a first carousel, the sample tube having readable identifying indicia, the first carousel being rotatable and lying in a first plane;

rotating an overlapping second carousel including a pipette having readable identifying indicia for sample collection, the second carousel lying in a

January 11, 2005

second plane, different from the first plane, such that the sample tube having matching identifying indicia with the pipette are aligned;

urging the pipette and sample tube together, the pipette including aspiration structure;

aspirating sample from the sample tube to the pipette; and

20. (Cancelled) The method of testing a sample in a diagnostic instrument as set forth in Claim 19 wherein, the steps further include:

after aspirating sample from the sample tube, raising the pipette and rotating it to a first station to begin the diagnostic process.

21. (Cancelled) The method of testing a sample in a diagnostic instrument as set forth in Claim 19 wherein, the steps further include:

the pipette having an outer surface and the outer surface has a plurality windows and each of the windows represents a different testing criteria and wherein the diagnostic procedure includes multiple simultaneous analysis and diagnosis of the sample.